

# Psychological Capital Scale: A Study on the Psychometric Properties of Employees in Malaysia

Ooh Seow Ling

Faculty of Allied Health Sciences, University  
of Cyberjaya, Malaysia.  
oohseowling@gmail.com

Chua Bee Seok

Faculty of Psychology and Education,  
Universiti Malaysia Sabah, Malaysia.  
chuabs@ums.edu.my

Ismail Maakip

Faculty of Psychology and Education,  
Universiti Malaysia Sabah, Malaysia.  
daeng@ums.edu.my

## Abstract

Since its inception in 2007, psychological capital has been gaining more and more attention. Nonetheless, zero studies had been done on the psychometric properties of the 24-item Psychological Capital Questionnaire (PCQ) in Malaysia. Therefore, the present study examined the reliability and validity of the questionnaire. A total of 420 Malaysian government employees participated in this study. Findings revealed that the PCQ demonstrated a satisfactory level of psychometric properties in Malaysia after five items were excluded. Hence, the Psychological Capital Questionnaire (PCQ) could be used for Malaysian employees to discover positive contributions to psychological capital in the Malaysian workplace setting.

**Keywords:** Psychological capital, reliability, and validity.

Received 8 August 2020/Accepted 16 December 2020 ©Author all rights reserved

## Introduction

Today, the expansive adverse economic phenomenon had contributed to stress. Organisations are thriving to stay afloat to increase or sustain productivity in a competitive world. Therefore, employers have placed immense pressure on their employees to boost productivity and generate profit. This had eventually affected the employees' overall well-being and performance negatively. The American Psychological Association (2015) stated that 65% of the individuals are grappling with work stress in

life. This resulted from extended working hours, uncertain job expectations, and excessive workload (Kong, Tsai, Tsai, Huang, and Cruz, 2018). Soo and Ali (2016) claimed that about 7 out of 10 Malaysians suffer from stress. Additionally, AIA Vitality conducted a survey among 17,595 Malaysians in 2019 and found that 51% of the employees suffered from work-related stress, which had ultimately caused an estimated loss of 1.5 million in a month (AIA, 2020).

Over the years, studies discovered that psychological capital contributed to the negative effects of employees' stress (Abbas, and Raja, 2015; Kong, Tsai, Tsai, Huang, and Cruz, 2018; Demir, 2018; Celik, 2018; Bhattacharya, Swaha; Banerjee, Esha, 2018), anxiety (Avey, Reichard, Luthans, and Mhatre, 2011; Baezzat, Mirmostafae, Akbari, and Abbasi-Asl, 2017; Zhou et al, 2018), and burnout (Malekitabar, Riahi, Malekitabar, 2017; Wang, Liu, Zou, Hao, and Wu, 2017; Moyer, Aziz, and Wuensch, 2017; Zhun, Schooler, Yong, and Mingda, 2018; Li, Wu, Li, Chen, and Wang, 2019). Therefore, individuals with high levels of psychological capital were able to handle stress, anxiety, and burnout better compared to individuals with low levels of psychological capital.

However, the psychological capital is not only restricted to affect the employees' stress, anxiety, and burnout levels negatively, but can also contribute to the positive behaviours of employees such as job performance, organisational commitment, and their overall well-being. Therefore, studies found that employees with high levels of psychological capital were more satisfied with their job (Karatepe, and Karadas, 2015; Badran, and Youssef-Morgan, 2015; Adeel, Nawaz, Imran, 2019; Lee, and Jung, 2019), committed to their job (Lee, and Jung, 2019; Tang, Shao, and Chen, 2019; Wu, and Nguyen, 2019; Bseiso, 2020), and were able to perform better at work (Sun, Zhao, Yang and Fan, 2011; Friend, Johnson, Luthans, and Sohi, 2016; Alessandri, Consiglio, Luthans, and Borgogni, 2018; Bhaumik, Law, Xu, and Raju, 2020 ).

Furthermore, psychological capital had been identified as one of the contributing factors to the employees' well-being (Hao, Chen, and Yang, 2019; Hernández-Varas, Encinas, and Suárez, 2019; Dawkins, Martin, and Quinn, 2019; Okun, 2020). In conclusion, the outcomes of psychological capital are essential in business settings (Luthans, Youssef-Morgan, and Avolio, 2015) because it has the potential to improve employees' positive attitude, behaviour, and performance (Friend, Johnson,

Luthans, and Sohi, 2016), and reduce employees' stress, anxiety, and burnout levels to increase business productivity and profit.

*What is psychological capital?*

Luthans and Youssef (2004) were the pioneers of psychological capital. The questionnaire referred to four major and positive psychological state-like traits of humans such as self-efficacy, optimism, hope, and resilience. The definitions of the four psychological traits are listed below:

- a) Self-efficacy: Refers to the individuals' level of self-confidence in performing a challenging task. Therefore, individuals with a high level of self-efficacy will accept a challenging task, believe in their abilities, and nurture self-motivation to invest the necessary effort to achieve a visualised goal.
- b) Optimism: Refers to the individuals' positive attributes toward their current or future situations. Therefore, highly optimistic individuals can frame their conditions positively and buoyantly.
- c) Hope: Refers to individuals' willpower to pursue their goals persistently. Individuals who have high hopes are always determined toward achieving their goals. They will not limit themselves to a single solution and create alternative routes to accomplish their goals
- d) Resilience: Refers to the ability to rebound from hardship despite a rocky ride or setbacks in the process of achieving a goal. Highly resilient individuals will not give up easily. They will put in more effort to accomplish the goals.

Therefore, the psychological capital is individuals' positive state of development, which highlights questions such as "who you are, what you believe you can do, what you do and who you can become" (Luthans, Youssef-Morgan, and Avolio, 2015).

*The psychometric properties of the psychological capital questionnaire (PCQ)*

The 24-item psychological capital questionnaire (PCQ) was formed based on the four scales listed below:

Table I  
*The four scales of psychological capital questionnaire (PCQ)*

Scale	Developed by	Year
Hope	Snyder, Sympton, Ybasco, Borders, Babyak and Higgins	1996
Optimism	Scheier and Carver	1985
Resilience	Wagnild and Young	1993
Self -efficacy	Parker	1998

All four scales demonstrated a satisfactory level of psychometric properties (Luthans, Avolio, Avey, & Norman, 2007; Antunes, Caetano, and Cunha, 2017). Luthans, Avolio, Avey, & Norman (2007) first examined the psychometric properties of the 24-item psychological capital questionnaire (PCQ) that was formed based on the above four scales in the United States. As a result, the PCQ demonstrated acceptable reliability with Cronbach alphas that ranged between .66 and .89, and with a satisfactory level of validity whereby the SRMR = .051, RMSEA = .046, and CFI = .93. Hence, scholars from China (Cheung, Tang, and Tang, 2011), Thailand (Sapyaprapa, Tuicomepee, Watakakosol, 2013), Italy (Alessandri, Borgogni, Consiglio and Mitidieriand, 2015), Portugal (Antunes, Caetano, and Cunha, 2017), and Rome (Lupsa, and Virga, 2018) had examined the psychometric properties of the 24-item psychological capital questionnaire (PCQ) for 13 years.

Consequently, all the mentioned studies obtained an adequate level of psychometric properties. Hence, the PCQ demonstrated an adequate level of reliability and validity across geographies. Although Luthans and Youssef-Morgan (2017) posited that all four components of the psychological capital (self-efficacy, optimism, hope, and resilience) were unifactorial and possessed unique characteristics, some studies found these four components un-unifactorial and overlapped each other (Dawkins, Martin, Scott and Sanderson, 2013). Additionally, Görgens-Ekermans and Herbert (2013) had assessed the psychometric properties of the PCQ on 209 participants in South Africa. As a result, (Görgens-Ekermans and Herbert, 2013) found that the intercorrelations between the components: a) optimism and hope, and b) hope and self-efficacy were slightly high. It implied the components (optimism and hope, hope, and self-efficacy) encountered the risk of overlapping. Besides Rego, Marques, Leal, Sousa, & Cunha, (2010) also found that *hope* consisted of two subcomponents, predominantly willpower and

pathways. Therefore, the component of *hope* could be divided into two independent components such as willpower and pathway. Subsequently, Dawkins, Martin, Scott, and Sanderson (2013) suggested a further study to examine the psychometric properties of PCQ. Besides, the positive impacts of psychological capital that had been discussed in previous works proved that it could contribute to organisations. Nonetheless, zero studies had been carried out in Malaysia based on psychological capital (Burhanuddin, Ahmad, Said, and Asimiran, 2019). Therefore, it is necessary to examine the psychometric properties of the psychological capital questionnaire (PCQ). The present study assessed the psychometric properties of PCQ in Malaysia to enrich the literature of psychological capital.

## Method

### *Participants*

A total of 420 Malaysian government employees participated in the present study. The samples were selected via the cluster sampling method. Informed consents were obtained from the participants. The participants were informed regarding the objective, confidentiality, and their right in the study. The participants aged between 20 and 59. Table 2 states the average age of the samples, which was 37. Additionally, there were 247 females (58.81%) and 173 males (41.19%).

Table 2  
*The demographic profile of the sample (N=420)*

<i>Variable</i>	<i>Frequency</i>	<i>Percentage</i>	<i>Mean</i>
<i>Gender</i>			
Male	173	41.19	
Female	247	58.81	
Age			37.25

### *Measurement*

The 24-item Psychological Capital Questionnaire (PCQ) developed by Luthans, Youssef, and Avolio (2007) was utilised in this study. The instrument consisted of four constructs, namely self-efficacy, hope, reliance, and optimism. Additionally, each construct was measured based on 6 items. The

sample's level of agreement or disagreement of the items was measured based on a six-point scale, which ranged between 1-strongly disagree and 6-strongly agree. The following are some of the items of PCQ:

Table 3  
*The items of PCQ*

Constructs	Items
Hope	There are lots of ways around any problem.
Optimism	I approach this job as if "every cloud has a silver lining"
Resilience	I usually take stressful things at work in stride.
Self -efficacy	I feel confident analyzing a long-term problem to find a solution.

#### *Procedure*

The instrument was translated from English to Bahasa Malaysia via the translation technique before the present study. Nonetheless, Sekaran (2003) suggested a pre-test to prevent item deficiencies before distributing the questionnaire. About ten samples were involved in the pre-test. As a result, positive comments were received from the samples in the pre-test. The samples were able to understand and interpret the meanings of the items accurately.

In the actual test, nine Malaysian government departments were selected randomly. As a result, 450 sets of the questionnaire were distributed randomly government workers from selected departments. About 420 questionnaires from a total of 450, were returned.

#### *Data analysis*

The present study performed four different analyses chiefly, indicator reliability constructs reliability, convergent validity, and discriminant validity via Wwrap PLS 6.0 to assess the reliability and validity of the instrument.

### **Result**

#### *Reliability*

Two distinctive analyses (indicator and construct reliability) were executed to measure the relevance

of PCQ. First, the items' loadings were examined via the indicator reliability test, in which the loading of each item should equal or be greater than 0.5 (Kock, 2017). The outcomes of the experiment found that the majority of the items' loadings met Kock's (2017) requirements. All of the items had a loading range between 0.593 and 0.864, except for five items. The five items were represented in Table 2 as 5, 13, 19, 20, and 23. Additionally, the construct reliability analysis was carried out to examine the values of composite reliability and Cronbach's alpha for four constructs of PCQ. Kock (2017) suggested a minimum threshold of 0.7 for both the composite reliability and Cronbach's alpha. Therefore, Table 3 shows the value of the composite reliability and Cronbach's alpha for four constructs ranged between 0.703 and 0.880, which was higher than the minimum requirement of 0.7.

Table 4  
*Result of the Reliability*

<i>Construct</i>	<i>Item</i>	<i>Loading</i>	<i>P-Value</i>	<i>Composite Reliability</i>	<i>Cronbach's alpha</i>	<i>Deleted item</i>
Self-efficacy				0.871	0.813	Item 5
	1	0.593	<0.001			
	2	0.838	<0.001			
	3	0.767	<0.001			
	4	0.824	<0.001			
	6	0.754	<0.001			
Hope				0.880	0.835	None
	7	0.692	<0.001			
	8	0.797	<0.001			
	9	0.707	<0.001			
	10	0.682	<0.001			
	11	0.818	<0.001			
Resilience	12	0.747	<0.001	0.838	0.757	Item 13
	14	0.665	<0.001			
	15	0.690	<0.001			
	16	0.760	<0.001			
	17	0.757	<0.001			
	18	0.687	<0.001			
Optimism				0.836	0.703	Items 19, 20 and 23
	21	0.864	<0.001			
	22	0.854	<0.001			
	24	0.651	<0.001			

### Validity

Two different analyses (convergent and discriminant validity) were implemented to measure the validity of PCQ. According to Kock and Lynn (2012), the value of Average Variance Extracted (AVE) should at least be equivalent to or higher than 0.5 in the convergent analysis. Similarly, the findings revealed that the AVE for all four constructs was higher than 0.5 and ranged between 0.509 and 0.633. Therefore, Table 4 depicts the details of the results.

Table 5  
*The result of convergent validity*

Construct	AVE
Self-efficacy	0.578
Hope	0.551
Resilience	0.509
Optimism	0.633

Additionally, the present study analysed the validity of the instrument at the construct level in which the analysis of discriminant validity was executed. Kock (2017) posited that the square root of AVE for each construct should be the highest in comparison to the other constructs. Likewise, Table 5 revealed that the square root of AVE for the four constructs (self-efficacy, hope, resilience, and optimism) was the highest in the study.

Table 6  
*The result of discriminant validity*

	Self-efficacy	Hope	Resilience	Optimism
Self-efficacy	0.760	0.596	0.477	0.520
Hope	0.596	0.742	0.592	0.586
Resilience	0.477	0.592	0.713	0.473
Optimism	0.520	0.586	0.473	0.796



## Discussion

The findings of the present study examined the PCQ-demonstrated satisfactory level of psychometric properties in Malaysia. The reliability of PCQ was corroborated via the reliability of the indicator and construct. Table 6 shows that the indicator reliability of the five-item loadings failed to achieve a threshold value of 0.5 based on Kock's (2017) recommendation.

Table 7  
*The list of excluded items*

Item	Description	Construct
5	I feel confident contacting people outside the company (e.g., suppliers, customers) to discuss problems.	Self-efficacy
13	When I have a setback at work, I have trouble recovering from it or moving on.	Resilience
19	When things are uncertain for me at work, I usually expect the best.	Optimism
20	If something can go wrong for me at work, it will.	
23	In this job, things never work out the way I want them to.	

The construct reliability analysis was carried out after excluding the five items. Findings revealed that the composite reliability and Cronbach's alpha for the four constructs (self-efficacy, hope, resilience, and optimism) were higher than the required threshold value of 0.7. Besides, the five removed items were not included in the reduced version of the Psychological Capital Questionnaire (PCQ-12). Additionally, Luthans Avey, Clapp-Smith and Li (2008) simplified the original PCQ-24 (24 items) to PCQ-12 (12 items), to ensure only essential items were retained in the 12-item version of the PCQ.

Additionally, empirical studies conducted by Rus, Băban, Jesus, and Andrei (2012); León-Pérez, Antino, and León-Rubio, (2017); Kamei, Ferreira, Valentini, Peres, Kamei, and Damásio, (2018); Martínez, Meneghel, Carmona-Halty, and Youssef-Morgan (2019); Djourova, Rodriguez, and Lorente-Prieto, (2019); and Murgić, Rijavec, and Miljković, D. (2019) discovered that the short version of PCQ-12 demonstrated highly reliable and valid. As a result, scholars recommended the use of the short version

of the Psychological Capital Questionnaire (PCQ-12) in Malaysia to prevent fatigue and boredom. Based on validity, the present study found that the AVE values for all four constructs (self-efficacy, hope, resilience, and optimism) were higher than the required threshold value of 0.5. Furthermore, the square root value of AVE for each construct was the highest in comparison to other constructs. Therefore, the PCQ demonstrated a satisfactory level of validity, specifically all four constructs (self-efficacy, hope, resilience, and optimism) were unifactorial and possessed unique characteristics in the Malaysian context.

## Conclusion

In conclusion, the twenty-four items from the Psychological Capital Questionnaire (PCQ) were completely reliable and valid for Malaysians. Furthermore, psychological capital had been acknowledged as one of the psychological factors that attenuated the employees' undesirable stress (Bhattacharya, & Banerjee, 2018), anxiety (Qiao, Wang, & Wang, 2018), and burnout (Li, Wu, Li, Chen, & Wang, 2019) to improve employees' behaviours such as job performance (Bhaumik, Law, Xu, & Raju, 2020), and organisational commitment (Bseiso, 2020). This would subsequently increase the organisational productivity. Therefore, future research could examine the possible and positive contributions to psychological capital in Malaysia, as there are zero publications on the relationship between psychological capital and the aforementioned variables (stress, anxiety, burnout, job performance, and organisational commitment). In general, psychological capital is a state-like trait, which can be nurtured via training in a short period. (Dello, Russo, & Stoykova, 2015; Luthans & Youssef-Morgan, 2017). Additionally, future research could conduct a psychological capital training intervention in Malaysia to minimise undesirable employee behaviour and increase the anticipated employee behaviour based on the established psychometric properties of psychological capital.

## References

- Abbas, M., & Raja, U. (2015). Impact of psychological capital on innovative performance and job stress. *Canadian Journal of Administrative Sciences*, 32(2), 128-138. doi:10.1002/cjas.1314.
- AIA (2020). Malaysia's healthiest workplace: 2019 results. Retrieved July10, 2020, from <https://healthiestworkplace.aia.com/malaysia/eng/2019-results/>

- Adeel, M., Nawaz, A., & Imran, M. (2019). Role of psycap in job satisfaction and intention to leave: A survey of faculty from higher education institutions in DI Khan. *Journal of Managerial Sciences*, 13(4), 38-47.
- Alessandri, G., Borgogni, L., Consiglio, C., & Mitidieri, G. (2015). Psychometric properties of the italian version of the psychological capital questionnaire. *International Journal of Selection and Assessment*, 23(2), 149-159. doi:10.1111/ijsa.12103.
- Alessandri, G., Consiglio, C., Luthans, F. and Borgogni, L. (2018), Testing a dynamic model of the impact of psychological capital on work engagement and job performance, *Career Development International*, 23(1), 33-47. doi:10.1108/CDI-11-2016-0210.
- American Psychological Association (2015). *2015 Stress in America snapshot*. Retrieved July10, 2020, from <https://www.apa.org/news/press/releases/stress/2015/snapshot>.
- Antunes, A. C., Caetano, A., & Pina e Cunha, M. (2017). Reliability and construct validity of the Portuguese version of the Psychological Capital Questionnaire. *Psychological reports*, 120(3), 520-536. doi:10.1177/0033294116686742.
- Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly*, 22(2), 127-152. doi:10.1002/hrdq.20070.
- Badran, M. A., & Youssef-Morgan, C. M. (2015). Psychological capital and job satisfaction in Egypt. *Journal of Managerial Psychology*, 30(3), 354-370. doi:10.1108/JMP-06-2013-0176.
- Baezzat, F., Mirmostafae, M., Akbari, A., & Abbasi-Asl, R. (2017). Causal model for depression based on psychological capital by mediating of hospital stress and anxiety in woman nurses. *Women's Health Bulletin*, 4(4), e13241. doi:10.5812/whb.13241.
- Bhattacharya, S., & Banerjee, E. (2018). Employee engagement, perceived stress and psychological capital: An empirical study. *ASBM Journal of Management*, 11(2), 1-10.
- Bhaumik, A., Law, K. A., Xu, Y., & Raju, V. (2020). Empirical study on employee's psychological capital: based on guangdong technology enterprises in china. *International Journal of Psychosocial Rehabilitation*, 24(4), 167-170. doi: 10.37200/IJPR/V24I4/PR201116.
- Bseiso, D. (2020). *The impact of psychological empowerment on the service quality of front-of-house staff in the Jordanian hotel sector* (Doctoral dissertation, University of Salford).
- Burhanuddin, N. A. N., Ahmad, N. A., Said, R. R., & Asimiran, S. (2019). A systematic review of the psychological capital (psycap) research development: Implementation and gaps. *International Journal of Academic Research in Progressive Education and Development*, 8(3), 133-150. doi:10.6007/IJARPED/v8-i3/6302

- Çelik, M. (2018). The effect of psychological capital level of employees on workplace stress and employee turnover intention. *innovar*, 28(68), 67-75. doi:10.15446/innovar.v28n68.70472
- Cheung, F., Tang, C. S. K., & Tang, S. (2011). Psychological capital as a moderator between emotional labor, burnout, and job satisfaction among school teachers in China. *International Journal of Stress Management*, 18(4), 348-371. doi:10.1037/a0025787
- Dawkins, S., Martin, A., Scott, J., & Sanderson, K. (2013). Building on the positives: A psychometric review and critical analysis of the construct of Psychological Capital. *Journal of Occupational and Organizational Psychology*, 86(3), 348-370. doi:10.1111/joop.12007
- Dawkins, S., Martin, A., & Quinn, M. (2019). Evaluating the impact of a team-level psychological capital intervention for enhanced performance and wellbeing. Paris, France.
- Dello Russo, S., & Stoykova, P. (2015). Psychological capital intervention (PCI): A replication and extension. *Human Resource Development Quarterly*, 26(3), 329-347. doi:10.1002/hrdq.21212.
- Demir, S. (2018). The relationship between psychological capital and stress, anxiety, burnout, job satisfaction, and job involvement. *Eurasian Journal of Educational Research*, 75, 137-153. doi:10.14689/ejer.2018.75.8
- Djourova, N., Rodriguez, I., & Lorente-Prieto, L. (2019). Validation of a modified version of the psychological capital questionnaire (PCQ12) in Spain. *Revista Interamericana de Psicología Ocupacional*, 37(2), 93-106. doi:10.21772/ripo.v37n2a02
- Görgens-Ekermans, G., & Herbert, M. (2013). Psychological capital: Internal and external validity of the psychological capital questionnaire (PCQ-24) on a South African sample. *SA Journal of Industrial Psychology*, 39(2), 1-12. doi:10.4102/sajip.v39i2.1131
- Friend, S. B., Johnson, J. S., Luthans, F., & Sohi, R. S. (2016). Positive psychology in sales: Integrating psychological capital. *Journal of Marketing Theory and Practice*, 24(3), 306-327. doi:10.1080/10696679.2016.1170525
- Hao, T. M., Chen, Y. W., & Yang, S. (2019, October). Relationship between proactive personality and employee well-being: mediating effect of psychological capital. In 2019 IEEE International Symposium on Innovation and Entrepreneurship (TEMS-ISIE) (1-4). IEEE. doi:10.1109/TEMS-ISIE46312.2019.9074435
- Hernández-Varas, E., Encinas, F. J. L., & Suárez, M. M. (2019). Psychological capital, work satisfaction and health self-perception as predictors of psychological wellbeing in military personnel. *Psicothema*, 31(3), 277-283. doi:10.7334/psicothema2019.22
- Kamei, H., Ferreira, M. C., Valentini, F., Peres, M. F. P., Kamei, P. T., & Damásio, B. F. (2018). Psychological capital questionnaire-short version (PCQ-12): Evidence of validity of the Brazilian version. *Psico-USF*, 23(2), 203-214. doi:10.1590/1413-82712018230202

- Karatepe, O. M., & Karadas, G. (2015). Do psychological capital and work engagement foster frontline employees' satisfaction?. *International Journal of Contemporary Hospitality Management*, 27(6), 1254-1278. doi:10.1108/IJCHM-01-2014-0028
- Kock, N. (2017). Warp PLS User Manual: Version 6.0.
- Kock, N., & Lynn, G. (2012). Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations. *Journal of the Association for information Systems*, 13(7).
- Kong, F., Tsai, C. H., Tsai, F. S., Huang, W., and Cruz, S.M. (2018). Psychological capital research: A meta-analysis and implications for management sustainability. *Sustainability*, 10(10), 3457. doi:10.3390/su10103457.
- Lee, B. Y., & Jung, H. M. (2019). Factors related to positive psychological capital among Korean clinical nurses: a systematic review and meta-analysis. *Journal of Korean Clinical Nursing Research*, 25(3), 221-236. doi:10.22650/JKCNR.2019.25.3.221.
- León-Pérez, J. M., Antino, M., & León-Rubio, J. M. (2017). Adaptation of the short version of the psychological capital questionnaire (PCQ-12) into Spanish/Adaptación al español de la versión reducida del Cuestionario de Capital Psicológico (PCQ-12). *Revista de Psicología Social*, 32(1), 196-213. doi:10.1080/02134748.2016.1248024.
- Li, Y., Wu, Q., Li, Y., Chen, L., & Wang, X. (2019). Relationships among psychological capital, creative tendency, and job burnout among Chinese nurses. *Journal of Advanced Nursing*, 75(12), 3495-3503. doi:10.1111/jan.14141
- Lupşa, D., & Virgă, D. (2018). Psychological Capital Questionnaire (PCQ): Analysis of the Romanian adaptation and validation. *Psihologia Resurselor Umane*, 16(1), 27-39.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel psychology*, 60(3), 541-572. doi:10.1111/j.1744-6570.2007.00083.x.
- Luthans, F., Avey, J. B., Clapp-Smith, R., & Li, W. (2008). More evidence on the value of Chinese workers' psychological capital: A potentially unlimited competitive resource?. *The International Journal of Human Resource Management*, 19(5), 818-827. doi:10.1080/09585190801991194.
- Luthans, F., & Youssef, C. M. (2004). Human, social, and now positive psychological capital management: Investing in people for competitive advantage. *Organizational dynamics*, 33(2), 143-160. doi: 10.1016/j.orgdyn.2004.01.003.
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital: Developing the human competitive edge*. Oxford University Press, New York.

- Luthans, F., Youssef-Morgan, C. M., & Avolio, B. J. (2015). *Psychological capital and beyond*. Oxford University Press, New York.
- Luthans, F., & Youssef-Morgan, C. M. (2017). Psychological capital: An evidence-based positive approach. *Annual Review of Organizational Psychology and Organizational Behavior*, 4, 339-366.
- Martínez, I. M., Meneghel, I., Carmona-Halty, M., & Youssef-Morgan, C. M. (2019). Adaptation and validation to Spanish of the psychological capital questionnaire-12 (PCQ-12) in academic contexts. *Current Psychology*, 1. doi:10.1007/s12144-019-00276-z.
- Malekitabar, M., Riahi, M., & Malekitabar, A. R. (2017). The role of psychological capital in psychological well-being and job burnout of high schools principals in Saveh, Iran. *Iranian Journal of Psychiatry and Behavioral Sciences*, 11(1), 246-250. doi:10.5812/ijpbs.4507.
- Moyer, F., Aziz, S., & Wuensch, K. (2017). From workaholism to burnout: Psychological capital as a mediator. *International Journal of Workplace Health Management*, 10(3), 213-227. doi:10.1108/IJWHM-10-2016-0074.
- Murčić, D., Rijavec, M., & Miljković, D. (2019). Initial validation of the shortened psychological capital questionnaire (PCQ-12) on Croatian sample. *Ekonomski pregled*, 70(1), 3-21. doi:10.32910/ep.70.1.1.
- Okun, O. (2020). *The positive face of human capital, psychological capital, and well-being*. In *Maintaining Social Well-Being and Meaningful Work in a Highly Automated Job Market*. IGI Global. doi:10.4018/978-1-7998-2509-8.ch006.
- Parker, S. K. (1998). Enhancing role breadth self-efficacy: the roles of job enrichment and other organizational interventions. *Journal of applied psychology*, 83(6), 835-852. doi: 10.1037/0021-9010.83.6.835.
- Rego, A., Marques, C., Leal, S., Sousa, F., & Pina, C. (2010). Psychological capital and performance of Portuguese civil servants: exploring neutralizers in the context of an appraisal system. *The International Journal of Human Resource Management*, 21(9), 1531-1552. doi:10.1080/09585192.2010.488459.
- Rus, C. L., Băban, A., Jesus, S. N. D., & Andrei, D. (2012). An analysis of the psychometric properties of the psychological capital questionnaire-12. *Journal of Educational Sciences & Psychology*, 2(1), 345-359.
- Sapyaprapa, S., Tuicomepee, A., & Watakakosol, R. (2013). Validation of psychological capital questionnaire in Thai employees. In *Proceedings of the Asian Conference on Psychology and the Behavioral Sciences*, Japan (pp. 394-400).

- Scheier, M. F., & Carver, C. S. (1985). Optimism, coping, and health: assessment and implications of generalized outcome expectancies. *Health psychology*, 4(3), 219-247. doi: 10.1037//0278-6133.4.3.219.
- Sekaran, U. (2003). Research methods for business: A skill building approach (4<sup>th</sup>ed.). Hoboken, NJ: John Wiley and Sons.
- Soo, H. S., & Ali, H. (2016). The linkage between stress and organizational citizenship behaviour. *International Business Management*, 10(14), 2713-2718. doi:10.36478/ibm.2016.2713.2718.
- Sun, T., Zhao, X. W., Yang, L. B., & Fan, L. H. (2012). The impact of psychological capital on job embeddedness and job performance among nurses: a structural equation approach. *Journal of advanced nursing*, 68(1), 69-79. doi:10.1111/j.1365-2648.2011.05715.x.
- Snyder, C. R., Sympson, S. C., Ybasco, F. C., Borders, T. F., Babyak, M. A., & Higgins, R. L. (1996). Development and validation of the State Hope Scale. *Journal of personality and social psychology*, 70(2), 321-355. doi: 10.1037//0022-3514.70.2.321.
- Tang, Y., Shao, Y. F., & Chen, Y. J. (2019). Assessing the mediation mechanism of job satisfaction and organizational commitment on innovative behavior: The perspective of psychological capital. *Frontiers in Psychology*, 10. doi:10.3389/fpsyg.2019.02699.
- Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of resilience scale. *Journal of nursing measurement*, 1(2), 165-178.
- Wang, X., Liu, L., Zou, F., Hao, J., & Wu, H. (2017). Associations of occupational stressors, perceived organizational support, and psychological capital with work engagement among Chinese female nurses. *BioMed Research International*, 2017. doi:10.1155/2017/5284628.
- Wu, W. Y., & Nguyen, K.-V. H. (2019). The antecedents and consequences of psychological capital: a meta-analytic approach. *Leadership & Organization Development Journal*, 40(4), 435-456. doi:10.1108/LODJ-06-2018-0233.
- Zhou, J., Yang, Y., Qiu, X., Yang, X., Pan, H., Ban, B., Qiao, Z., & Wang, W. (2018). Serial multiple mediation of organizational commitment and job burnout in the relationship between psychological capital and anxiety in Chinese female nurses: A cross-sectional questionnaire survey. *International Journal of Nursing Studies*, 83, 75-82. doi:10.1016/j.ijnurstu.2018.03.016.
- Zhun, G. O. N. G., Schooler, J. W., Yong, W. A. N. G., & Mingda, T. A. O. (2018). Research on the relationship between positive emotions, psychological capital and job burnout in enterprises' employees: Based on the broaden-and-build theory of positive emotions. *Canadian Social Science*, 14(5), 42-48. doi:10.3968/10383.